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Application Serial No. 09/656,868

REMARKS

In the non-final Office Action, the Examiner rejected claims 1-10, 14, 17, 19-27, 31, and 36 under 35 U.S.C. § 102(e) as anticipated by Liu et al. (U.S. Patent No. 6,266,395); rejected claims 11, 28, and 35 under 35 U.S.C. § 103(a) as unpatentable over Liu et al. in view of Bell Telephone Laboratories ("Transmission Systems for Communications") (hereinafter "Bell"); rejected claims 11, 13, 28, 30, and 35 under 35 U.S.C. § 103(a) as unpatentable over Liu et al. in view of Bell; rejected claims 15, 16, 32, and 33 under 35 U.S.C. § 103(a) as unpatentable over Liu et al. in view of Bell and Millbrandt (U.S. Patent No. 6,633,545); and rejected claims 12, 29, and 34 under 35 U.S.C. § 103(a) as unpatentable over Liu et al. in view of Bell, Millbrandt, and Tennyson (U.S. Patent No. 6,466,647).

By this Amendment, Applicant amends claims 1, 2, 11, 13, 17-19, 28, 30, and 34-36 to improve form. Claims 1-36 remain pending. Applicant notes that the Examiner did not reject independent claim 18, but rejected the claims that depend from claim 18. Therefore, Applicant assumes that the Examiner meant to reject claim 18 under 35 U.S.C. § 102(e) as allegedly anticipated by Liu et al. If Applicant is incorrect in this assumption, Applicant respectfully requests clarification of the status of claim 18.

At pages 2-5 of the Office Action, the Examiner rejected claims 1-10, 14, 17, 19-27, 31, and 36 under 35 U.S.C. § 102(e) as allegedly anticipated by Liu et al. Applicant respectfully traverses the rejection with regard to the amended claims.

Amended claim 1, for example, recites a combination of features of a method for predicting digital subscriber line (DSL) performance on an existing telephone loop. The method comprises obtaining a topological description of the existing telephone loop; identifying a

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straight loop of a particular length and a particular gauge that is equivalent to the existing telephone loop, as an equivalent loop, based on the topological description of the existing telephone loop; determining DSL performance for the equivalent loop; and predicting DSL performance for the existing telephone loop based on the DSL performance for the equivalent loop.

A proper rejection under 35 U.S.C. § 102 requires that a single reference teach every aspect of the claimed invention either expressly or impliedly. Any feature not directly taught must be inherently present. In other words, the identical invention must be shown in as complete detail as contained in the claim. See M.P.E.P. § 2131. Liu et al. does not disclose or suggest the combination of features recited in amended claim 1. For example, Liu et al. does not disclose or suggest identifying a straight loop of a particular length and a particular gauge that is equivalent to the existing telephone loop based on the topological description of the existing telephone loop, as recited in amended claim 1.

When rejecting a similar feature with regard to original claim 11, the Examiner admitted that Liu et al. does not disclose identifying an equivalent straight loop (Office Action, page 6). The Examiner alleged, however, that Bell discloses converting a cable circuit arrangement with bridge taps into an equivalent circuit without bridge taps (Office Action, page 6). Bell does not disclose or suggest, however, identifying an equivalent straight loop of a particular length and a particular gauge, as required by amended claim 1.

Because neither Liu et al. nor the combination of Liu et al. and Bell discloses or suggests identifying an equivalent straight loop of a particular length and a particular gauge, neither Liu et al. nor the combination of Liu et al. and Bell can be relied upon for disclosing or suggesting

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determining DSL performance for the equivalent loop, as recited in claim 1. Instead, Liu et al. specifically discloses determining upstream and downstream transmission bit rates for the subscriber loop (i.e., the existing telephone loop) (col. 10, line 59, through col. 11, line 16). The disclosure of Bell provides nothing to cure this deficiency in the disclosure of Liu et al.

Because neither Liu et al. nor the combination of Liu et al. and Bell discloses or suggests determining DSL performance for the equivalent loop, neither Liu et al. nor the combination of Liu et al. and Bell can be relied upon for disclosing or suggesting predicting DSL performance for the existing telephone loop based on the DSL performance for the equivalent loop, as also recited in claim 1.

For at least the foregoing reasons, Applicant submits that claim 1 is not anticipated by Liu et al. and is patentable over Liu et al. and Bell, whether taken alone or in any reasonable combination. Claims 2-10 and 14 depend from claim 1 and are, therefore, not anticipated by Liu et al. and patentable over Liu et al. and Bell, whether taken alone or in any reasonable combination, for at least the reasons given with regard to claim 1.

Amended independent claim 17 recites a combination of features of a system for predicting DSL performance on existing telephone loops. The system comprises means for obtaining topological descriptions of the existing telephone loops; means for identifying loops of one or more particular lengths and a single particular gauge that are equivalent to the existing telephone loops, as equivalent loops, based on the topological descriptions of the existing telephone loops; means for determining DSL performance for the equivalent loops; and means for predicting DSL performance for the existing telephone loops from the DSL performance for the equivalent loops.

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Neither Liu et al. nor the combination of Liu et al. and Bell discloses or suggests the combination of features recited in amended claim 17. For example, neither Liu et al. nor the combination of Liu et al. and Bell discloses or suggests means for identifying loops of one or more particular lengths and a single particular gauge that are equivalent to the existing telephone loops based on the topological descriptions of the existing telephone loops.

The Examiner alleged that Liu et al. discloses determining an equivalent loop circuit for a subscriber loop from a physical information database (which the Examiner identified as carrier service database 106) and cited Figures 7-9 of Liu et al. for support (Office Action, page 2). Applicant disagrees.

In Figures 7-9, Liu et al. shows three types of subscriber loop deployments. The subscriber loop deployment of Figure 7 includes two segments connected to a public switch. The subscriber loop deployment of Figure 8 includes two shielded segments. The subscriber loop deployment of Figure 9 includes two segments and a bridged tap. Nowhere in connection with these figures, or elsewhere, does Liu et al. disclose or suggest means for identifying loops of one or more particular lengths and a single particular gauge that are equivalent to the existing telephone loops based on the topological descriptions of the existing telephone loops.

The Examiner relied upon Bell for allegedly disclosing converting a cable circuit arrangement with bridge taps into an equivalent circuit without bridge taps (Office Action, page 6). Bell does not disclose or suggest, however, means for identifying loops of one or more particular lengths and a single particular gauge, as required by amended claim 17.

Because neither Liu et al. nor the combination of Liu et al. and Bell discloses or suggests means for identifying loops of one or more particular lengths and a single particular gauge,

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neither Liu et al. nor the combination of Liu et al. and Bell can be relied upon for disclosing or suggesting means for determining DSL performance for the equivalent loops, as recited in claim 17. Instead, Liu et al. specifically discloses determining upstream and downstream transmission bit rates for the subscriber loop (i.e., an existing telephone loop) (col. 10, line 59, through col. 11, line 16). The disclosure of Bell provides nothing to cure this deficiency in the disclosure of Liu et al.

Because neither Liu et al. nor the combination of Liu et al. and Bell discloses or suggests means for determining DSL performance for the equivalent loops, neither Liu et al. nor the combination of Liu et al. and Bell can be relied upon for disclosing or suggesting means for predicting DSL performance for the existing telephone loops from the DSL performance for the equivalent loops, as also recited in claim 17.

For at least the foregoing reasons, Applicant submits that claim 17 is not anticipated by Liu et al. and is patentable over Liu et al. and Bell, whether taken alone or in any reasonable combination.

Amended independent claim 18 recites features similar to features recited in claim 1. Claim 18 is, therefore, not anticipated by Liu et al. and patentable over a combination of Liu et al. and Bell, whether taken alone or in any reasonable combination, for reasons similar to reasons given with regard to claim 1. Claims 19-27 and 31 depend from claim 18 and are, therefore, not anticipated by Liu et al. and patentable over a combination of Liu et al. and Bell, whether taken alone or in any reasonable combination, for at least the reasons given with regard to claim 18.

Amended independent claim 36 recites features similar to features recited in claims 1 and 17. Claim 36 is, therefore, not anticipated by Liu et al. and patentable over a combination of Liu

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et al. and Bell, whether taken alone or in any reasonable combination, for reasons similar to reasons given with regard to claims 1 and 17.

At pages 6 and 7, the Examiner rejected claims 11, 28, and 35 under 35 U.S.C. § 103(a) as allegedly unpatentable over Liu et al. in view of Bell. Applicant respectfully traverses the rejection.

Claims 11 and 28 respectively depend from claims 1 and 18. Without acquiescing in the Examiner's rejection, Applicant submits that the disclosure of Bell does not cure the deficiencies in the disclosure of Liu et al. identified above with regard to claims 1 and 18. Therefore, claims 11 and 28 are patentable over Liu et al. and Bell, whether taken alone or in any reasonable combination, for at least the reasons given with regard to claims 1 and 18.

Amended independent 35 recites features similar to features described above with regard to claim 1. Without acquiescing in the Examiner's rejection, Applicant submits that the disclosure of Bell does not cure the deficiencies in the disclosure of Liu et al. identified above with regard to claim 1. Therefore, claim 35 is patentable over Liu et al. and Bell, whether taken alone or in any reasonable combination, for at least the reasons given with regard to claim 1.

At pages 7 and 8, the Examiner rejected claims 11, 13, 28, 30, and 35 under 35 U.S.C. § 103(a) as allegedly unpatentable over Liu et al. in view of Bell. Applicant respectfully traverses the rejection.

The Examiner again rejected claims 11, 28, and 35 based on Liu et al. and Bell. Applicant again traverses the rejection for the reasons provided above.

Claims 13 and 30 respectively depend from claims 1 and 18. Without acquiescing in the Examiner's rejection, Applicant submits that the disclosure of Bell does not cure the deficiencies

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in the disclosure of Liu et al. identified above with regard to claims 1 and 18. Therefore, claims 13 and 30 are patentable over Liu et al. and Bell, whether taken alone or in any reasonable combination, for at least the reasons given with regard to claims 1 and 18. Claims 13 and 30 are also patentable over Liu et al. and Bell for reasons of their own.

For example, claims 13 and 30 recite, among other things, determining the particular length of a straight loop from information regarding at least one of bridged-taps, gauge, temperature, or insulation type associated with the existing telephone loop. Neither Liu et al. nor Bell, whether taken alone or in any reasonable combination, discloses or suggests these features. The Examiner generally alleged that Bell discloses these features, but identified no particular portion of Bell to support the allegation. Because Bell does not disclose or suggest the features of claims 13 and 30, the Examiner has not established a prima facie case of obviousness with regard to claims 13 and 30.

For at least these additional reasons, Applicant submits that claims 13 and 30 are patentable over Liu et al. and Bell, whether taken alone or in any reasonable combination.

At pages 8 and 9, the Examiner rejected claims 15, 16, 32, and 33 under 35 U.S.C. § 103(a) as allegedly unpatentable over Liu et al. in view of Bell and Millbrandt. Applicant respectfully traverses the rejection.

Claims 15, 16, 32, and 33 variously depend from claims 1 and 18. Without acquiescing in the Examiner's rejection, Applicant submits that the disclosures of Bell and Millbrandt do not cure the deficiencies in the disclosure of Liu et al. identified above with regard to claims 1 and 18. Therefore, claims 15, 16, 32, and 33 are patentable over Liu et al., Bell, and Millbrandt.

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whether taken alone or in any reasonable combination, for at least the reasons given with regard to claims 1 and 18.

At pages 10 and 11, the Examiner rejected claims 12, 29, and 34 under 35 U.S.C. § 103(a) as allegedly unpatentable over Liu et al. in view of Bell, Millbrandt, and Tennyson. Applicant respectfully traverses the rejection.

Claims 12 and 29 respectively depend from claims 1 and 18. Without acquiescing in the Examiner's rejection, Applicant submits that the disclosures of Bell, Millbrandt, and Tennyson do not cure the deficiencies in the disclosure of Liu et al. identified above with regard to claims 1 and 18. Therefore, claims 12 and 29 are patentable over Liu et al., Bell, Millbrandt, and Tennyson, whether taken alone or in any reasonable combination, for at least the reasons given with regard to claims 1 and 18. Claims 12 and 29 are further patentable for reasons of their own.

Claims 12 and 29 recite, locating DSL capacity in a table and finding the equivalent loop that corresponds to the DSL capacity in the table. Neither Liu et al., Bell, Millbrandt, nor Tennyson, whether taken alone or in any reasonable combination, discloses or suggests these features.

The Examiner admitted that Liu et al., Bell, and Millbrandt do not disclose these features, but alleged that Tennyson discloses them (Office Action, page 10). The Examiner cited column 11, lines 43-44, and column 12, lines 44-50, of Tennyson for support. Applicant disagrees.

Column 11, lines 42-44, corresponds to a portion of claim 6 in Tennyson and recites "(g) using the table to determine the value of the transmission capability parameter corresponding to a potential local loop; and." Nowhere in this section, or elsewhere, does Tennyson disclose or

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suggest finding an equivalent loop that corresponds to the DSL capacity of an existing telephone loop in a table, as required by claims 12 and 29.

Column 12, lines 44-50, corresponds to a portion of claim 12 in Tennyson and recites "a computer to store a table comprising a plurality of entries, each entry in the table comprising a potential value of the transmission characteristic and a corresponding data carrying capacity, wherein the computer calculates the data carrying capacity of the potential local loop using the stored table; and." Nowhere in this section, or elsewhere, does Tennyson disclose or suggest finding an equivalent loop that corresponds to the DSL capacity of an existing telephone loop in a table, as required by claims 12 and 29.

For at least these additional reasons, Applicant submits that claims 12 and 29 are patentable over Liu et al., Bell, Millbrandt, and Tennyson, whether taken alone or in any reasonable combination.

Amended independent claim 34 recites features similar to features recited in claims 1 and 17. The disclosures of Bell, Millbrandt, and Tennyson do not cure the deficiencies in the disclosure of Liu et al. described above with regard to claims 1 and 17. Claim 34 is, therefore, patentable over Liu et al., Bell, Millbrandt, and Tennyson, whether taken alone or in any reasonable combination, for reasons similar to reasons given with regard to claims 1 and 17.

In view of the foregoing amendments and remarks, Applicant respectfully requests the reconsideration of this application and the timely allowance of the pending claims.


To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper,

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including extension of time fees, to Deposit Account No. 07-2347 and please credit any excess fees to such deposit account.

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